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TAXONOMIC HISTORY OF THE NEOTROPICAL HARES OF THE GENUS *SYLVILAGUS*, SUBGENUS *TAPETI*

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The present paper is confined to a review of the taxonomic literature dealing with those species of *Sylvilagus* which inhabit South America, and those members of the "*Sylvilagus gabbi* group" of Nelson (1909) which occur in Central America. These latter are included because they represent the nearest allies geographically to the South American animals. Since the publication of Nelson's monograph 'The Rabbits of North America,' two races, *S. g. consobrinus* Anthony and *S. g. messorius* Goldman, have been added to the *gabbi* ranks.

TAXONOMIC HISTORY

1648. Marcgrave described (pp. 223–224) "*Tapeti brasiliensibus*, item est Cuniculi species, major quam Aperea, & dupla magnitudine gliris . . ." This animal Thomas (1901*b*) thought identifiable as the little hare of Rio de Janeiro (in 1913 named *tapetillus*) but subsequently (1911) correlated with the rather larger form found in the Pernambuco region.

The description furnished the basis of *Lepus brasiliensis* Linnaeus.

1693. Ray cited (pp. 205–206) Marcgrave's description.

1758. Linnaeus (I, p. 58) described *Lepus brasiliensis*, based upon his own 9th edition of 'Systema Naturae,' upon Marcgrave's *Tapeti* and upon Ray (who based his account upon Marcgrave's). See Thomas, 1901*b*, 1911, and 1913. [A great many compilers subsequently made reference to this species.]

1778. Pallas named (p. 30) Marcgrave's hare "*Lepus* (*tapeti*)." Thus a synonym of *brasiliensis*.

1782. Molina employed (p. 306) the term *Lepus minimus* for a cavy (probably of the genus *Galea*).

1801. Azara wrote (II, pp. 57–64) of the Tapiti (probably *paraguensis* Thomas).

1825. Wied discussed (pp. 450–452) "*Lepus brasiliensis*."

1830. Rengger gave (pp. 247–250) an account of "*Lepus brasiliensis*" (probably *paraguensis*).

1845. Tschudi stated (p. 198) that Poeppig found "*Lepus brasiliensis*" at Maynas on the Marañon (probably *de-filippi*).

1848. Waterhouse, reviewing the hares (pp. 1–146), dealt with *L. braziliensis* (*sic*). His description was based partly upon a skin from Bolivia (probably *b. gibsoni* or *inca*), partly upon a skull from Pará (probably true *brasiliensis*) and fossil material from Lagoa Santa.

1850. Cornalia in Osculati described (p. 309) *Lepus de-filippi*, comparing it with *brasiliensis*.

1854. Burmeister reviewed (pp. 251–254) the data upon "*L. brasiliensis*," and contributed original observations.

1859. Baird distinguished (p. 575) as his section "D," the group of rabbits upon which Gray (1867) based *Sylvilagus*.

1860. Tomes recorded (p. 260) "*Lepus brasiliensis*," from Fraser's expedition to Ecuador. This may have been any one of a number of species of that country.

1867. Gray published (pp. 219–225) an important classification of the hares. He erected (p. 221) *Sylvilagus* and (p. 224) *Tapeti*. The former was founded upon section "D" of Baird (1859) and comprised the species *nanus*, *artemisia*, and *bachmanni;* the latter was proposed to contain *brasiliensis*.

1869. Frantzius recorded (pp. 247–325) "*Lepus brasiliensis*." This must have been a member of the *gabbi* group.

1872. Hensel discussed (p. 62) "*Lepus brasiliensis*" from Rio de Janeiro. He did not record it from Rio Grande do Sul. I suspect that Hensel's description referred to *tapetillus* Thomas.

1875. J. A. Allen, in his 'Synopsis of American Leporidae,' keyed out (p. 432) "*brasiliensis*" and gave for it (p. 435) a short synonymy. He failed to mention *de-filippi*.

1877. J. A. Allen described (pp. 348-350) "*Lepus brasiliensis* var. *gabbi*" and discussed "*L. brasiliensis*."

1880. Alston reviewed (pp. 175–181) the status of the Central American hares. He made *gabbi* Allen (1877) a full species.

1881. Trouessart followed (1880, p. 207) Gray's generic arrangement. He listed *gabbi* Allen and *defilippi* (*sic*) Cornalia as subspecies of "*brasiliensis*."

1882. Thomas recorded (p. 101) "*brasiliensis*" from Cutervo, Peru, 9000 feet. (Probably equal to his *capsalis*.)

1883. Pelzeln recorded (pp. 79–80) "*brasiliensis*" taken by Natterer from the Provinces São Paulo and Matto Grosso (*b. minensis* and *b. chapadae* ?).

1888. Winge wrote (pp. 10–11, 110–114) of the Leporidae.

1890. J. A. Allen described (pp. 192–194) *Lepus truei*, comparing it with *palustris* and *aztecus*.

1891. J. A. Allen mentioned (p. 216) the almost total destruction of the "two types" of *gabbi* by museum pests.

1894. Hartert described (p. 40) *Lepus nigronuchalis*.

1894. Matschie recorded (p. 62) "*L. brasiliensis*" from near Tucuman and Jujuy (probably equal to *gibsoni*).

1896. Robinson recorded (p. 651) "*brasiliensis*" from Margarita (=*margaritae* Miller).

1897. Thomas described (pp. 551–552) *Lepus andinus*, comparing it with *sylvaticus*, and *Lepus cumanicus*. He suggested that *defilippi* was nearly allied to *brasiliensis*.

1898. Miller described (pp. 97–98) *Lepus margaritae*, related to *cumanicus*.

1898. Trouessart treated (pp. 658–663) *Sylvilagus* and *Tapeti* as subgenera of *Lepus*.

1899. J. A. Allen described (pp. 196–197) *Lepus* (*Sylvilagus*) *superciliaris*, compared with *cumanicus*. "Belongs to . . . the section represented by *L. insolitus* . . . no close relation to the subgenus *Tapeti*."

1899. Major discussed (pp. 433–520) the *Lagomorpha*.

1900. Thomas described (pp. 356–357) *Sylvilagus orinoci*.

1901. Bangs described (pp. 631–644) *Lepus* (*Tapeti*) *incitatus*, "an island form of *gabbi*."

1901*a*. Thomas described (pp. 543–545) *Sylvilagus surdaster*, which he compared with *gabbi*.

1901*b*. Thomas described (pp. 534–535) *Sylvilagus minensis*. He recognized three types of South Brazilian hares: the form from Paraguay, *minensis*, and true *brasiliensis*. He fixed the type locality of the last as Rio de Janeiro (but see Thomas, 1911 and 1913).

1901*c*. Thomas described (p. 539) *Sylvilagus paraguensis*, allied to *minensis*.

1903. Thomas described (pp. 241–242) *Sylvilagus minensis chapadae*.

1904. J. A. Allen published (p. 445) Smith's notes on *S. superciliaris.*

1904. Lyon published his 'Classification of the Hares and Their Allies.' In it *Tapeti* was merged (p. 334) with *Sylvilagus.*

1904. Nelson described (pp. 103–104) *Lepus* (*Sylvilagus*) *insonus,* allied to *gabbi.*

1904. Thomas described (p. 36) *Sylvilagus meridensis,* allied to *andinus.*

1905. Trouessart placed (pp. 536–539) the Central American rabbits of the *gabbi* group with *floridanus* in the subgenus *Sylvilagus* and all the South American ones in the subgenus *Tapeti.*

1908. J. A. Allen described (pp. 647–670) *Lepus gabbi tumacus.*

1909. Nelson published 'The Rabbits of North America.' In it (p. 257) *Tapeti* was shown as a subgenus of *Sylvilagus.* No species from south of *Panama* were discussed.

1910. Osgood described (pp. 29–30)*Sylvilagus avius.* He thought that many of the South American forms would eventually be reduced to subspecific rank.

1910. Trouessart described (pp. 25–27) *Sylvilagus* (*Tapeti*) *ecaudatus.*

1911. Thomas revised his views of 1901 and fixed (p. 146) the type locality of *brasiliensis* as Pernambuco (see also 1913).

1911. J. A. Allen recorded (p. 249) *S. cumanicus* Thomas from Tocuyo, fifty miles southwest of Barquisimeto, Venezuela.

1912. J. A. Allen described (p. 75) *Sylvilagus* (*Tapeti*) *fulvescens* which he compared with *surdaster* and *andinus.*

1912. Goldman described (pp. 1–18) *Sylvilagus gabbi messorius.*

1912. Osgood described (pp. 57–58) *Sylvilagus nigronuchalis continentis.*

1913. J. A. Allen described (pp. 476–477) *Sylvilagus* (*Tapeti*) *salentus:* ". . . belongs to the *Tapeti* section of the genus and is nearly related to *S. gabbi* . . ." It was compared with *surdaster.* He remarked also on *fulvescens.*

1913. Thomas referred a series from Lamarão, Bahia, to *brasiliensis* and gave the new name *tapetillus* to the very small species from Rio de Janeiro, which until 1911 had been called *brasiliensis.* He held that the Lamarão rabbits, *minensis, chapadensis,* and *paraguensis,* together with a new form, "*brasiliensis inca,*" from eastern Peru (pp. 210–211), were all subspecies of a single wide-ranging species. He discussed also (p. 211) intergradation northward of "*brasiliensis*" with Colombian and Orinoco forms.

Next he reviewed (pp. 212–214) the *andinus* group,

describing as new *Sylvilagus a. chimbanus, S. a. canarius,* and *S. capsalis.*

1913. Cabrera described (pp. 1–15) *Sylvilagus nivicola.* He made a key to the Andean forms and considered *ecaudatus* Trouessart a synonym of *a. andinus.* He afterwards discussed other South American hares.

1914. J. A. Allen described (pp. 199–200) *Sylvilagus daulensis.* He compared it with *surdaster.*

1914. Osgood commented (p. 171) upon *defilippi* and *inca.*

1914. Stone remarked (p. 15) upon *andinus,*—probably the subspecies *chimbanus.*

1914. Thomas described (pp. 410–414) *Sylvilagus valenciae,* which he compared with *cumanicus* and *orinoci.*

1916. J. A. Allen described (pp. 83–87) *Sylvilagus boylei.* He maintained that it "needed no comparison" with *continentis, cumanicus,* and *gabbi.*

1917. Anthony described (pp. 335–337) *Sylvilagus gabbi consobrinus.*

1918. Thomas described (pp. 186–193) *Sylvilagus brasiliensis gibsoni,* comparing it with *paraguensis.*

1920. Goldman commented (pp. 146–148) on the rabbits of Panama.

1920. Thomas described (pp. 31–33) *Sylvilagus apollinaris,* allied to *surdaster* and *meridensis,* and *S. purgatus,* which was compared to *margaritae.*

1921. Thomas described (pp. 442–443) *Sylvilagus nicefori,* "nearly allied to *S. apollinaris.*"

1923. Anthony described (pp. 9–13) *Sylvilagus kelloggi* and *S. chillae,* comprising a "third group," set off from the *andinus* and *daulensis* groups.

1925. Pocock discussed (pp. 669–700) the external characters of the lagomorphs.

1927. Thomas admitted (p. 371) that the rabbits of the Moyobamba region of Peru might be *defilippi.*

1929. Dice discussed (pp. 340–344) the phylogeny of the Leporidae.

1929. Krieg commented (pp. 784–785) upon *S. paraguensis.*

Regarding the identity and type locality of *brasiliensis* some confusion has existed. *Brasiliensis* Linnaeus (1758) was based upon the Brazilian hare described by Marcgrave. At first, Thomas (1901*b*) fixed *brasiliensis* upon the small rabbit of Rio de Janeiro, and this conclusion was accepted by Nelson in his monograph of the rabbits (1909). But in

1911 Thomas stated (without offering evidence to prove it) that Marcgrave,[1] on whose description *brasiliensis* was based, "stayed chiefly at 'Moritzstadt,' now Recife, most of his time, 1640–1644, while even his excursions were limited to the coast region between 5° 45′ and 11° 11′ S. . . ." In 1913, Thomas wrote of a series of rabbits from Lamarão, Bahia, which he included with true *brasiliensis* from a little farther north (Pernambuco).

As Thomas (1901*b*), has already remarked, Marcgrave described an extremely small hare. But any or all of the Brazilian species must have seemed small to him in comparison with those he knew in Europe. Moreover, his comparisons to show size "larger than a cavy, and double the size of a glire" are not particularly significant. Since the evidence points solely to the Pernambuco region as the scene of Marcgrave's activities and indicates (negatively) that he never reached Rio de Janeiro or farther south, we ought to conclude that Thomas's fixation of Rio de Janeiro as type locality for *brasiliensis* and his bestowal of that name on the tiny Rio hare (*tapetillus*) were both erroneous. In consequence, I feel that we must accept his designation of 1911: namely, that *brasiliensis* refers to the slightly larger animal of the Pernambuco region with Pernambuco itself fixed as its type locality.

A few words may be added regarding the orthography of Cornalia's hare. This author wrote *De-Filippi* (*sic*). In zoölogical writing we are at liberty to use small letters instead of capitals for patronymics, but, we are not permitted (Arts. 19, 20, 'International Rules of Nomenclature') to omit hyphens or diacritical marks. Accordingly the name must be written *de-filippi*.

List of Named Forms with Type Localities

South Amazonian Region

brasiliensis brasiliensis (Linnaeus)	Pernambuco, Brazil (Thomas, 1911), Not Rio de Janeiro (Thomas, 1901)
Synonym: *tapeti* Pallas	
brasiliensis paraguensis Thomas	Sapucay, Paraguay
brasiliensis minensis Thomas	Rio Jordão, S. W. Minas Geraes, Brazil
brasiliensis chapadae Thomas	Santa Anna de Chapada, 30 miles northeast of Cuyaba, Matto Grosso, Brazil, 800 m.
brasiliensis gibsoni Thomas	Manuel Elordi, Vermejo, Salta, Argentina, 500 m.
brasiliensis inca Thomas	Cadena, Marcapata, Peru

[1]For discussion of Marcgrave, see Gudger, 1912, Popular Science Monthly, LXXXI, p. 250, and 1914, Science, XL, p. 507.

tapetillus Thomas	Porto Real, near Rezende, Rio de Janeiro, Brazil

Orinoco and West Amazonian Region

de-filippi Cornalia	Woods of Quixos, eastern Ecuador
orinoci Thomas	Maipures, Upper Orinoco, Venezuela
valenciae Thomas	Near Lake Valencia, Carabobo, Venezuela
cumanicus Thomas	Cumana, Prov. Sucre, coast of Venezuela
margaritae Miller	Margarita Is., off Prov. of Sucre, Venezuela

Andean Region

capsalis Thomas	San Pablo, Cajamarca, Peru. 2000 m.
kelloggi Anthony	Guachanama, Prov. Loja, Ecuador, 9050 ft.
chillae Anthony	Salvias-Zaruma trail, Prov. Oro, Ecuador, 6600 ft.
andinus canarius Thomas	Ca[illegible]ar, Ecuador, 2600 meters
andinus chimbanus Thomas	Sinche, western slope of Mt. Chimborazo, Ecuador, 4000 m.
andinus andinus Thomas	Western slope of Mt. Cayambe, Ecuador, 4000 m.
Synonym?: *ecaudatus* Trouessart	Neighborhood of Quito, Ecuador
nivicola Cabrera	Mt. Antisana, Ecuador, 4800 m.
salentus J. A. Allen	Salento, West Quindio Andes, Colombia, 7000 ft.
fulvescens J. A. Allen	Belen, western Andes, Colombia, 6000 ft.
apollinaris Thomas	Choachi, near Bogotá, Colombia
purgatus Thomas	Purificacion, Magdalena Valley, S. W. of Bogotá, Colombia
nicefori Thomas	San Pedro, Medellin, Colombia
meridensis Thomas	Sierra de Merida, Venezuela

Panama, North Pacific and Caribbean coasts of South and Central America

daulensis J. A. Allen	Daule, Guayas, Ecuador
surdaster Thomas	Carondelet, R. Bogotá, Prov. Esmeraldas, Ecuador, 20 m.
superciliaris J. A. Allen	Bonda, Santa Marta Dist., Colombia
boylei J. A. Allen	La Playa, near Baranquilla, Colombia
nigronuchalis nigronuchalis Hartert	Aruba Island
nigronuchalis continentis Osgood	Maracaibo, Venezuela
avius Osgood	Testigo Grande, Testigos Islands, Venezuela
gabbi messorius Goldman	Cana, eastern Panama, 1800 ft.
gabbi consobrinus Anthony	Old Panama, Panama
gabbi incitatus Bangs	San Miguel Island, off Panama

gabbi gabbi J. A. Allen	Talamanca, Costa Rica
gabbi tumacus J. A. Allen	Tuma, east of Matagalpa, Nicaragua
gabbi truei J. A. Allen	Mirador, Mexico
gabbi insonus Nelson	Omilteme, Guerrero, Mexico

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